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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/560,109	04/28/2000	Peter J. Sallaway	M-5628 US	3400

7590 05/13/2003

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EXAMINER

TRAN, KHAI

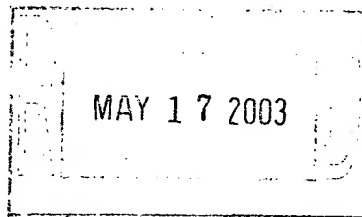
ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 05/13/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.



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Office Action Summary

Application No.

09/560,109

Applicant(s)

SALLAWAY ET AL.

Examiner

KHAI TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-14 and 17-35 is/are rejected.
- 7) ☒ Claim(s) 8,15 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-2, 6, 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Raghavan (U.S. Pat. 6,421,381).

Regarding claims 1 and 9, Raghavan discloses a receiver as shown in Figure 5, comprising: a filter (401), analog to digital converter (402); a decision feedback equalizer (403) coupled in series; a decoder (MLT3 decoded) coupled to receive an output signal from each of the receiver for outputting a stream of symbols.

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Regarding claim 2, a coefficient update (405) as shown in Fig. 5.

Regarding claim 6, the filter includes an analog equalizer (401).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-4, 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raghavan (U.S. Pat. 6,421,381).

Regarding claims 3-4, a use of a NEXT canceller, echo canceller coupled in series with the filters, the analog-to-digital filter and the equalizer is well known in the art to remove or cancel an unwanted signal of the received. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the NEXT canceller, the echo canceller into the teaching of Raghavan in order to reduce error signal.

Claims 18-21 are similar to claims 2-5. Therefore, claims 18-21 are rejected under a similar rationale.

5. Claims 5, 7, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raghavan (U.S. Pat. 6,421,381) in view of Raghavan (U.S. Pat. 6,415,003).

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Regarding claim 5, Raghavan' 003 discloses a wander correction (211 as shown in Fig. 2) coupled in series with the filter, the analog-to-digital filter. It would have been obvious to one having ordinary skill in the art at the time the invention was made to correct smoothly the input samples of the received signal.

Regarding claim 7, Raghavan' 003 discloses an amplifier (201) coupled in series with the filter.

Claim 23 is similar to claim 7. Therefore, claim 23 is rejected under a similar rationale.

6. Claims 10-14, 17, 22, 24-27, 28-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raghavan (U.S. Pat. 6,421,381) in view of Raghavan (U.S. Pat. 6,038,269).

Regarding claims 10-14, 17, Raghavan' 269 discloses a detection for digital communication receivers comprising a sequence detector (702) as shown Fig. 7 in which includes a branch metric generator (801); an add-compare-select circuit (802); a starting point determination circuit (a starting state determinator 805). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the sequence detector as taught by Raghvan' 269 into the teachings of Raghavan' 381 for estimating an entire sequence of transmitted data and makes use of most or all of the sample power in the ISI symbols.

Regarding claim 22, the filter includes an analog equalizer (401) as taught by Raghavan' 381.

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Claims 24-27 are similar to claims 1, 3-5. Therefore, claims 24-27 are rejected under a similar rationale.

Claims 28-34 are similar to claims 1-5, 11-12. Therefore, claims 28-34 are rejected under a similar rationale.

Regarding claim 35, Raghavan' 269 also disclose a tracking back (403) based on the ACS results and the starting point.

Allowable Subject Matter

7. Claims 8, 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

or:

(703) 308-6743, (for informal or draft communications, please
"PROPOSED" or "DRAFT")

label


Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Khai Tran** whose telephone number is **(703) 305-1876**. The examiner can normally be reached on Monday-Thursday from 9:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Chi Pham**, can be reached on **(703) 305-4378**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.



KHAI TRAN
PATENT EXAMINER

KT
May 9, 2003